-1325.01 (REV. 9/97)
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DIST.	LTR	ENC
ON, R.F.		
SUSSEN, S.J.		
MOLINI, A.M.		
ILSFORD, M.D		
NER, C.J.		
DGE, L.		
D, R.G.		
GROVE, M.M.		
LTER, W.L.		
WFORD, A.C.		
ERA, D.W.		
ERA, K.P.		
NG, W.A.		
NG, C.L.		
J.A.		
INEZ, L.A.		
ER, A.	Y	Y
R, R.E.		
HEIS, G.M.		
NS B.	X	X
HERIE C.	X	X
K L.	X	X
H K	X	X
NER G.	X	X
CONTROL	X	X
RECORD	X	X
FIC		
T130G		

SIFICATION:

ASSIFIED	X	X
IDENTIAL		
ET		

HORIZED CLASSIFIER SIGNATURE

EPLY TO RFP CC

ON ITEM STATUS

RTIAL/OPEN

OSED

PPROVALS:

& TYPIST INITIALS

November 17, 1997

97-RF-06125

William Fitch
Decommissioning Program Coordinator
DOE, RFFO

NOTIFICATION OF MINOR MODIFICATION OF PROPOSED ACTION MEMORANDUM (PAM) FOR THE DECOMMISSIONING OF BUILDING 123 - KAD-109-97

PURPOSE

The purpose of this letter is to make minor modification to the 123 PAM pursuant to Rocky Flats Cleanup Agreement (RFCA).

DISCUSSION

In accordance with the Rocky Flats Cleanup Agreement, Part 10 Changes to Work, Paragraph 126, DOE is making a written notice to CDPHE of its intent to make minor modification to work being done pursuant to the 123 PAM. These modifications are made to

1. Clarify our proposed work process; and
2. Correct errors and omissions.

The changes as identified in this letter are minor in nature and do not represent a major modification to the 123 PAM. The proposed minor modifications are:

1. Section 2.4.2 Beryllium has been modified as follows: ~~Initial decommissioning efforts in these rooms will include decontamination of all equipment surfaces~~. Decontamination of equipment contaminated with beryllium and subsequent free release of this equipment will be conducted in accordance with Kaiser-Hill and DOE guidance, policy and procedures. This section was added to clarify that decontamination will occur in accordance with Kaiser-Hill and/or DOE policy and guidance. (See page 11 of the 123 PAM)
2. Section 2.4.5 Perchloric Acid has been modified as follows: To mitigate such a hazard, all hoods and duct work will be flushed and the rinsate directed to the Site ~~sanitary~~ process wastewater treatment plant in Building 374. The process waste lines were never attached to the sanitary wastewater treatment system. This modification corrects an error. (See page 12 of the 123 PAM)

ADMIN RECORD
B123-A-00040

Kaiser-Hill Company, L.L.C.
Courier Address: Rocky Flats Environmental Technology Site, State Hwy. 93 and Cactus, Rocky Flats, CO 80007 • 303.966.7000
Mailing Address: P.O. Box 464, Golden, Colorado 80402-0464

3. Section 2.4.7 Polychlorinated Biphenyls (PCBs) has been modified as follows: Leaking PCB light ballasts and unmarked leaking light ballasts will be managed as fully-regulated PCB Articles. The word leaking was added for clarification. (See page 12 of the 123 PAM)
4. Section 2.4.7 was modified as follows: ~~No other potential PCB-contaminated systems, including painted walls, have been identified in Building 123~~. INSERT THE FOLLOWING PARAGRAPH AS THE OPENING PARAGRAPH IN THIS SECTION. In accordance with the Reconnaissance Level Characterization Plan, a walk through was conducted to evaluate the potential for PCBs in the 123 Cluster. Of particular concern was the possible presence of PCBs in paint. A historical review regarding the use of PCB paints in industry and at DOE sites was conducted prior to the walk through. This review included interviewing representatives at Savanna River and PCB paint manufacturer. This data was used to delineate areas of concern during the walk through that would require sampling. One area was identified and sampled as a result of the walk through. The results were nondetect for PCBs. Based on Process Knowledge and supported by limited sampling data, there is no indication that PCBs are present in paints in the 123 Cluster. [This section was added to clarify that a process knowledge evaluation coupled with limited sampling was used to determine that PCB paints were not present in the 123 Cluster. See page 12 of the 123 PAM]
5. Section 3.0 Project Approach and Objectives was modified to illustrate that the project will be approached by phases. The phased approach breaks down operations of a complex project into more easily explained and manageable segments. This statement does not deviate from our general approach, but better explains it. (See pages 13-14 of the 123 PAM)
6. Section 3.2, Worker Health and Safety, was modified as follows: The project will comply with OSHA construction standards for Hazardous Waste Operations and Emergency Response, 29 CFR ~~1926~~ 1910.120.
7. A Summary of the Waste Management Plan has been added as Appendix B of the 123 PAM. This section was added to clarify and summarize the project's waste management.

It is important to note that these modifications do not in any way impact the stipulations included in the August 25, 1997 cover letter for the Building 123 PAM. It is DOE's intent to comply with these requirements. In this letter, CDPHE required that the following documents be submitted to the State prior to initiating work governed by these documents:

- Project Execution Plan;
- The IHSS 148 Sampling and Analysis Plan;
- The IHSS 148 Remediation Plan;
- The RCRA Closure Plan for Unit 40;
- The Asbestos Abatement Plan (at least one week prior to implementation); and
- The Demolition Plan for Building 123 (at least two weeks prior to implementation).

RFCA does not provide a formal requirement that the Lead Regulatory Agency (LRA) approve minor modifications to a PAM. However, Part 10 of RFCA states, "the Lead Regulatory Agency (LRA) may issue a Stop Work Order within seven days of receipt of the notification of any such modification. To avoid issuance of a Stop Work Order, it is imperative that the lines of communication between DOE and CDPHE be clearly delineated.

RESPONSE REQUIREMENTS

Please forward this information to the lead Regulatory Agency responsible for this project. Contact my office at extension 6034, if there are any additional comments or concerns regarding the building 123 Decommissioning Project.

Kent Dorr
Project Management/Closure Projects

alw

Orig. and 1 cc - William Fitch

Attachment:
As Stated

cc:
Ted Hopkins
Vern Guthrie
Laura Tyler

2.4.2 Beryllium

Thirty-nine (39) metal samples were collected by qualified beryllium sampling technicians from Rooms 111 and 112, laboratories that processed beryllium-contaminated samples as a function of site environmental soil sampling programs. The samples were submitted to an external analytical laboratory for analysis. Three (3) swipe samples taken in Rooms 123A, 111, and 112 indicated trace readings between 0.37 $\mu g/ft^2$ and 2.04 $\mu g/ft^2$ (RMRS 1997). All results were below the RFETS site housekeeping level of 25 $\mu g/ft^2$, a standard developed by the Atomic Energy Commission in approximately 1949 and adopted and used by RFETS since the 1960's.

Decommissioning of equipment contaminated with beryllium and subsequent free release of this equipment will be conducted in accordance with Kaiser-Hill and DOE guidance, policy and procedures.

2.4.3 Chemicals

Analytical chemicals currently associated with Building 123 operations are tracked by the RFETS Chemical Tracking Group under the "Right-to-Know" provisions of the Superfunds Amendments Reauthorization Act (SARA) and are being managed by the laboratories. The chemicals will be removed immediately following termination of laboratory operations. Chemicals remaining in the building will be managed by the RFETS Chemical Tracking Group which will utilize or package chemicals for disposal. The current inventory of the building includes nitric acid, hydrochloric acid, hydrofluoric acid, oxalic acid, ammonium hydroxide, formic acid, perchloric acid, toluene, isopropyl alcohol, ammonium thiocyanate, DDCP, methanol, mercury, lead, cadmium, beryllium, sodium hydroxide, and potassium permanganate.

2.4.4 RCRA Hazardous Waste in Satellite Accumulation Areas (SAAs)

Satellite Accumulation Areas (SAAs) were established in Rooms 103A, 124, 125, 127, and 156 to ensure proper storage of RCRA hazardous wastes near the point of generation. The SAAs are no longer active. The chemicals have been properly containerized, labeled and dispositioned.

Representative waste types that were accumulated in each area are summarized as follows:

Room 103A - Combustibles, waste isopropynol, DDCP/toluene
Room 124 - Liquid waste methanol, isopropynol
Room 125 - DDCP/toluene, isopropynol contaminated with toluene
Room 127 - Hydrochloric acid, hydrofluoric acid, ethanol
Room 156 - Combustibles, waste toluene/DDCP, isopropynol

2.4.5 Perchloric Acid

Perchloric acid hoods currently occupy four rooms [105, 112, 127 and 157(2 hoods)] within Building 123. Chronic use of perchloric acid may have caused the chemical to crystallize inside the hoods. The crystalline form may be sensitive to shock and could represent a potential physical hazard during decommissioning activities. To mitigate such a hazard, all hoods and duct work will be flushed and the rinsate directed to the Site process wastewater treatment plant in Building 374. Site Health and Safety have reviewed requirements for decontamination of perchloric acid hoods. The steps outlined in the requirements include interviews with laboratory personnel; building walkdowns, necessary repairs, and washdowns of all hoods and associated ductwork; and dismantlement of ductwork into easily managed sections. The requirements also define proper segregation and disposal of all solid duct material.

2.4.6 Pressurized Gas Cylinders and Liquid Nitrogen

Pressurized gas cylinders used by the laboratories will be removed by laboratory personnel during tenant relocation. The liquid nitrogen system will be disconnected and removed in conjunction with utility deactivation.

2.4.7 Polychlorinated Biphenyls (PCBs)

Potential exists for the presence of PCBs in fluorescent light ballast. Consequently, all light ballast will be evaluated for PCB contamination and properly segregated after the building has been vacated and lights are no longer required. All light ballast marked "PCB Free" or "No PCBs" will be managed as non-hazardous solid waste and disposed at a sanitary landfill. Ballast marked "PCBs" or not marked and not leaking will be packaged for disposal at an TSCA-permitted facility. Leaking PCB light ballast and unmarked leaking light ballast will be managed as fully-regulated PCB Articles.

In accordance with the Reconnaissance Level Characterization Plan, a walkthrough was conducted to evaluate the potential for PCBs in the 123 Cluster. Of particular concern, was the possible presence of PCBs in paint. A historical review regarding the use of PCB paints in industry and at DOE sites was conducted prior to the walkthrough. This review included interviewing representatives at Savanna River and PCB paint manufacturer. This data was used to delineate areas of concern during the walkthrough that would require sampling. One area was identified and sampled as a result of the walkthrough. The results were nondectect for PCBs. Based on Process Knowledge and supported by limited sampling data, there is no indication that PCBs are present in paints in the 123 Cluster.

2.4.8 Radiologically-Contaminated Materials

Radiological assessments have been conducted in Building 123 by RFETS Radiological Safety. Most of the following Radiological Material Management Areas (RMMAs) exist in laboratory hoods: Rooms/Labs 103A, 105, 112, 124, 125, 156, 157, and 163. RCAs exist in Room/Labs 103A, 105, 112, 123, 124, 125, 126, 127, 135, 149, 155A, 156, 157, 158, 163. Radiological sources are stored in 123, 126, and 155A. All RMMAs and RCAs are managed according to associated radiological characteristics.

Floor tiles removed from areas that exhibit noticeable signs of spill contamination or are suspect of contamination as a result of a known spill incident, will be treated as LLW. In the event that contaminated tiles cannot be scabbled from the foundation, entire floor sections which indicate evidence of spill contamination will be removed and treated as LLW.

2.4.9 Metals

Samples were collected from selected painted surfaces in Building 123 and were analyzed for metals lead, chromium, cadmium, and arsenic, to support industrial hygiene efforts. Site historical knowledge and recommendations by an accredited inspector were utilized in the sampling process. Twenty-one (21) samples were collected, and analysis was conducted using Atomic Absorption Spectroscopy by a third independent party. All paints indicated detectable levels of one or more of the metals. Samples will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP). Should the TCLP analysis indicate the painted surfaces are leachable for heavy metals, they will be managed as hazardous waste. Otherwise, painted surfaces of construction materials will be managed as standard construction debris.

Lead bricks and shielding are located throughout the radiological areas to mitigate background radiation and protect personnel. The largest volume of lead is used to shield detectors and radiological sources. All lead or lead-bearing material will be removed by the source owners or dispositioned through the RFETS Property Utilization and Disposition Department.

3.0 PROJECT APPROACH AND OBJECTIVES

Building 123 will be decommissioned using a phased approach. A description of each of these phases and the activities that will be completed during each phase is provided below:

Phase I, Building 123 Strip-Out. The following tasks will be completed during Phase I:

- Limited asbestos abatement (for example cementitious cabinet and hood linings, mastic under a laboratory counter top).
- Removal of radioactively contaminated asbestos floor tile in Room 105, 109 and 109B.
- Removal of all carpet.
- Removal of process hoods and associated ducting, including a thorough rinse of the hood and ducting system, process waste system, and process scrubbbers for perchloric acid.
- Removal of laboratory cabinets, counter tops, and sinks.
- Removal of the process waste piping and ancillary equipment after completing a RCRA Closure rinse and rinsate analysis.
- Removal of ducting, piping, and other ancillary equipment for the process scrubbers and isolation of the scrubbers.
- Removal of other miscellaneous items such as fire protection equipment that will be salvaged for future use.
- Utility Isolation for Building 123 (power, water, communications, steam, natural gas, and plant air).

Phase II, Asbestos Abatement. The following asbestos containing materials will be abated during Phase II:

- Drywall mud, tape and joint compound.
- Floor tile.
- Cementitious wall, excluding the transite panels above the exterior windows.
- Pipe insulation for steam, condensate, domestic cold water, and domestic hot water. This shall include insulation of the steam lines entering Building 123 on the east side. Insulation shall be removed back to the main elevated steam/lines.
- Duct insulation on roof.
- Asbestos Containing Doors.

Phase III, Demolition of Building 113, 114, 123, and 123S. The following tasks will be conducted during Phase III:

- Removal of asbestos contaminated wall panels above exterior windows.
- Removal of miscellaneous materials (for example the lead/steel vault in Room 155, transformer in rooms 123A, 132, and 159, refrigerators, and process scrubbers).
- Utility isolation for Building 113.
- Demolition of Buildings 113, 114, 123, and 123S to the foundation slab.

Phase IV, Characterization and Remediation of IHSS 121 and 148. This phase includes the following tasks:

- Sampling the building slab and surrounding soils according to the Sampling Analysis Plan.
- Sample analysis.
- Developing a remediation plan based on the results of the sampling.
- Remediation activities.

The primary decommissioning objectives will be accomplished according to an integrated scope, schedule, and cost control system. All compliance documentation and project plans will be prepared and approved by RFETS Decommissioning and Demolition Management under a Project Execution Plan to ensure that decommissioning efforts are conducted in a safe and compliant manner.

All building utilities and associated facility safety systems will be disconnected prior to commencement of building demolition. The active process waste piping system in Building 123 (a component of RCRA Unit 40) will undergo closure according to State approved RCRA Closure Plan. The building will be safely dismantled and the resulting debris and waste will be properly characterized and disposed at appropriate off-site facilities. In addition, soil sampling beneath and adjacent to the building will be conducted using the methods described in a Sampling and Analysis Plan (SAP) prepared for this project. The SAP will be submitted to CDPHE at least 45 days prior to implementation. Underground pipelines will be managed with respect to soil sample analyses results. Soil remediation, if necessary will be conducted with respect to RFCA Action Levels in a manner that is protective of human health and the environment.

The project will use standard industry practices, but will also incorporate lessons learned from previous demolition projects at RFETS and utilize personnel with expertise in decontamination and decommissioning activities.

RCRA Unit 40 will be conducted in accordance with Colorado Hazardous Waste Regulations (265, Subpart G) which requires a 30-day public comment period. Remedial and disposal options for partial closure of RCRA Unit 40 will be further defined in a separate closure plan.

3.2 WORKER HEALTH AND SAFETY

The project will comply with OSHA construction standards for Hazardous Waste Operations and Emergency Response, 29 CFR 1926. An HSP is being developed in accordance with this standard. The plan will address potential hazards of each phase of the decommissioning process and specify the requirements and procedures for personnel protection. DOE Order 5480.9A, *Construction Project Safety and Health Management*, will provide additional guidance for this project. The DOE order requires the preparation of Activity Hazard Analysis to identify each task and associated hazards, and the controls necessary to mitigate the hazards. The requirements will be integrated as appropriate. In the event of an unforeseen deviation from the planned approach, a second Activity Hazard Analysis will be prepared to address altered circumstances, and work will proceed according to the appropriate control measures. Data and controls will be continually evaluated. Radiological Work Permits will be generated for contaminated areas and will identify the location of potential surface contamination, define the appropriate PPE, and apply appropriate airborne radioactivity controls, if necessary. As required by 10 CFR 835, *Occupational Radiation Protection*, all applicable implementing procedures will be followed to insure protection of the workers.

3.2.1 Personal Protective Equipment (PPE)

Decommissioning activities may potentially expose workers to physical and chemical hazards and low levels of radiological activity. Physical hazards associated with decommissioning activities include: the use of heavy equipment, electrical shock, noise, heat stress, and work on elevated surfaces. Physical hazards will be mitigated by appropriate use of personal protective equipment (PPE); and application of pre-engineering evaluations, pre-evolutionary meetings, proper training, and administrative controls. Decommissioning activities which require dismantlement of radiologically contaminated systems will be conducted using Level C PPE. This level includes a full-face respirator, steel toe safety shoes, hard hat, anti-C Tyvek coveralls, gloves, disposable shoe covers, and hearing protection (if applicable). Decommissioning of uncontaminated systems or structures will be conducted using Level D PPE, which includes safety glasses or face shield, with neither a respirator nor Tyvek coveralls as described above.

Employee exposure evaluations conducted by an Industrial Hygiene (IH) Site Health and Safety Officer will determine PPE levels, which may change with conditions.

3.2.2 Ambient Air Monitoring

The existing Radioactive Ambient Air Monitoring Program (RAAMP) continuously monitors airborne dispersion of radioactive materials from the Site into the surrounding environment. Thirty-one (31) samplers comprise the RAAMP network. Twelve (12) of these samplers are deployed at the Site perimeter and are used for confirmatory measurements of off-site impacts. The remainder are used as backup measures for determining local impacts from clean-up projects. Building 123 was not a plutonium, uranium or beryllium operations building, and based on results of radiological and beryllium surveys, the decontamination and demolition of Building 123 will not warrant special environmental monitoring. However, in response to a possible need for remediation of soil beneath the building slab with respect to soil sample analysis results, the project will operate a minimum of two low volume particulate samplers in the vicinity of the project site: One sampler

APPENDIX B

SUMMARY OF WASTE MANAGEMENT PLAN FOR THE BLDG. 123 D&D PROJECT

Estimated generation volumes incorporated into Building 123's Waste Management Plan (June 1997) may differ from those volumes used in this summary. Variations are due to completion of additional characterization and selection of waste management options.

WASTE STREAM	PACKAGING AND ONSITE STORAGE	FINAL DISPOSITION	ESTIMATED GENERATION VOLUME
ASBESTOS NON-RAD Friable Non-friable	Gray 55 gallon drums or strong tight boxes; friable 6 mm plastic double bagged; crate, roll-off; B666 or outside	Friable, Kettleman Hills through Chem Waste Contract Non-friable- U.S.A. Waste, Erie Co.	Friable 740 cu yds Non-friable <1 cu yd
ASBESTOS RAD Friable Non-friable	White 55 gallon drums or boxes; 6 mm plastic double bagged or strong tight boxes/crates; B664 or B644 Cargo Containers	Nevada Test Site (NTS)	4 cu yds
PCBs NON-RAD ballasts non-leaking	Black and yellow drum with a plastic liner Building 666	Chem Waste contract to Rollins Inc. at Deerpark, Tx.	< 1 cu yd. This sum is a total of all PCB categories. Until the ballasts are removed, it is impossible to categorize this waste stream correctly.
PCBs NON-RAD leaking ballasts and all other regulated PCBs (articles, etc.)	Black and yellow drum with plastic liner; document on traveler if TSCA regulated. Building 666	Chem Waste contract to Rollins Inc. at Deerpark, Tx.	Totaled in PCB NON-RAD category
PCBs RAD ballasts, non-leaking (LLW only, not TSCA regulated)	White drum with a plastic liner B666	Oak Ridge	Totaled in PCB NON-RAD category
Hazardous Waste NON-RAD fluorescent tubes Solvents, Paints, lead, chemicals, metals	Black and white drum tubes crushed on-site 123S or RCRA Unit 1	Chem Waste Contract	<1 cu yd
PCBs RAD Leaking ballasts and all other rad contaminated (LLW) and TSCA regulated wastes	White drum with a plastic liner B666	Oak Ridge	Totaled in PCB NON-RAD category

WASTE STREAM	PACKAGING AND ONSITE STORAGE	FINAL DISPOSITION	ESTIMATED GENERATION VOLUME
Hazardous waste rinsate (rad and non-rad) This waste stream will be generated during RCRA closure of part of RCRA Unit 40.	Process waste system,	Managed onsite in a wastewater treatment unit (building 374)	600 gallons
Mixed Wastes RAD Non-homogeneous Homogeneous	White 55 gallon drum 904A or Unit 14 or Unit 15A in Building 906	Non homogeneous LLMW does not have a designated disposal site at this time Homogeneous Oak Ridge LLM and LL solvents Envirocare, Utah	25 cu yds Envirocare can take solids and liquids (non-organics) that can be solidified
Low Level Waste plaster, wall materials, windows, panels, cement, etc.	White drum or white boxes or full size wooden crates complying with WO 1100 or WO 4034 B664 Cargo Containers or B440 Cargo Containers	Nevada Test Site	300 cu yds
Sanitary or Industrial Waste NON-RAD	Rolloffs either 20 or 30 yard roll offs	U.S.A. Waste, Erie, Colorado	150 cu yds
PU&D materials and processed RCRA Scrap Metal destined for reclamation NON-RAD	Not regulated under RCRA [file systems, cabinets, shelves, desks, fumes hoods, muffler furnaces, lab benches, etc.]	Per PU&D; or Per RF contract	500 cu yds
Processed RCRA Scrap Metal destined for reclamation RAD	White box and/or container	No contract yet in place. Options include SEG and MSC. No shipments will be made until a contract is in place with a K-H approved vendor.	Characterization not complete, estimate unavailable.

In the event a waste stream, not identified in this summary, is generated by this project and this wastes stream has the potential of impacting human health or the environment, then RMRS or its subcontractor is required to immediately notify Kaiser-Hill's Environmental Management and Compliance Division of the existence of this wastes stream. Jointly RMRS and Kaiser-Hill will determine the most appropriate management and disposal options for this waste stream.